

UNITED STATES PATENT APPLICATION

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of

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for

DEFORMABLE TOY ARTICLES

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**BACKGROUND**

Many types of games are currently available. One type of game includes two, somewhat similar toy articles that can be engaged in a battle. More specifically, in this game, each toy article includes a handle, a coupling piece, and a connecting element that attaches the coupling piece to the handle. Subsequently, the coupling pieces of each toy article are interlocked and rotated in opposite directions by a pair of players. This causes the connecting element of one of the toy articles to break and the coupling piece to become unattached.

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**SUMMARY**

The present invention is directed to a first toy article that engages a second toy article. In one embodiment, the first toy article includes a first body, a first engager, a first coupling element and a first rotation inhibitor. The first body can include a handle. The first engager is adapted to engage a second engager of the second toy article. The first rotation inhibitor inhibits relative rotation between the first engager and the first body about an axis until a predetermined force deforms the first rotation inhibitor to allow for relative rotation between the first engager and the first body about the axis. The first coupling element couples the first engager to the first body and does not inhibit relative rotation between the first engager and the first body about the axis. In one embodiment, the first engager rotates about the first coupling element following deformation of the first rotation inhibitor.

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In certain embodiments, the first body includes a base region and a wall region. The first coupling element can be secured to and extend substantially axially away from the base region to allow the first engager to rotate about the axis and/or the first coupling element. Alternatively, the first coupling element can be secured to and cantilever away from the wall region toward the first engager. In this embodiment, the first engager can include a guide slot that receives the first coupling element. The guide slot can guide rotation of the first engager relative to the body about the axis. In another embodiment, the first coupling element can be secured to and extend away from the first engager. Further, in at least some embodiments, the first rotation inhibitor does not inhibit movement of the first engager away from the body along the axis. In one embodiment, the first rotation inhibitor can be secured to and extend away from the first engager.

The present invention is also directed toward a combination that includes the first toy article and the second toy article. In this embodiment, the engagers are interlocked by two players. Subsequently, the toy articles can be rotated in opposite directions by the players. The relative rotation between the toy articles causes the deformation of the first rotation inhibitor. Further, following deformation of the first rotation inhibitor, the first engager can rotate about the axis relative to the first body.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

The novel features of this invention, as well as the invention itself, both as to its structure and its operation, will be best understood from the accompanying drawings, taken in conjunction with the accompanying description, in which similar reference characters refer to similar parts, and in which:

Figure 1 is a cross-sectional view of an embodiment of a first toy article and a second toy article having features of the present invention, illustrated in a disengaged position;

Figure 2 is a detailed, cutaway cross-sectional view of a portion of another embodiment of a coupling element and a portion of an engager of the first toy article;

Figure 3A is a top view of the first toy article of Figure 1;

Figure 3B is an end view of the first toy article of Figure 1;

Figure 4 is a cross-sectional view of the first toy article and the second toy article in an engaged position prior to a battle;

Figure 5 is a cross-sectional view of the first toy article and the second toy article following a battle between the toy articles;

5        Figure 6 is a cross-sectional view of another embodiment of the first toy article having features of the present invention;

Figure 7 is a cross-sectional view of yet another embodiment of the first toy article having features of the present invention; and

10        Figure 8 is a cross-sectional view of still another embodiment of the first toy article having features of the present invention.

### **DESCRIPTION**

Figure 1 illustrates a combination 9 that includes a first toy article 10 and a  
15        second toy article 10A in a disengaged position prior to a battle between the toy articles 10, 10A. As used herein, the battle between two toy articles 10, 10A can occur following physical engagement initiated by two players between the toy articles 10, 10A. During a battle, the toy articles 10, 10A are moved relative to each other until a portion of one of the toy articles 10, 10A becomes physically  
20        deformed, e.g. bent, damaged, or broken. For example, the movement of the toy articles 10, 10A during a battle can be in the form of turning, twisting, or otherwise exerting a force on one toy article 10 relative to the opposing toy article 10A.

For ease of discussion, in certain sections, only the first toy article 10 (sometimes referred to simply as the "toy article") is described herein. It is  
25        recognized that the second toy article 10A (or any number of other toy articles) can include one or more components that are functionally and/or structurally substantially similar or identical to one or more components of the first toy article 10. Moreover, as used herein, the first toy article 10 and the second toy article 10A are merely representative of any two toy articles having features of the  
30        present invention.

The design of the toy articles 10, 10A can be varied. For example, variations between different toy articles 10, 10A can include size, shape, color, markings, images and relative strength. Each toy article 10, 10A can be a different size and/or shape, provided that the size and/or shape of each toy article

10, 10A is such that the toy article 10, 10A can be physically engaged with one or more other toy articles, as explained in greater detail below. Moreover, each toy article 10, 10A can have a distinctive marking. For example, each toy article 10, 10A can have a different letter, number, picture, caricature, or another suitable distinctive marking that identifies the toy article 10, 10A. Moreover, the toy articles 10, 10A can be different colors.

In one embodiment, one of the toy articles 10, 10A can become permanently deformed during a battle. Alternatively, one of the toy articles 10, 10A can be temporarily deformed during a battle, and can be subsequently restored to its original configuration for use during another battle.

As an overview, the toy articles 10, 10A can also have different relative strengths. In one embodiment, the relative strength of one or more of the toy articles 10, 10A, or one or more portions of each toy article 10, 10A can vary. The relative strength of each toy article 10, 10A can be determined by the materials used to form the toy article 10, 10A, thereby giving at least a portion of the toy article 10, 10A a characteristic rigidity. Alternatively, the relative strength of each toy article 10, 10A can be determined by the size, thickness and/or shape of one or more portions of the toy article 10, 10A. For example, each toy article 10, 10A can have specific regions that are thickened, have the same thickness, or are less thick relative to one or more of the other toy article 10A, 10. Still alternatively, the relative strength of each toy article 10, 10A can be established using a combination of rigidity of materials and altering the size, thickness and/or shape of one or more portions of the toy article 10, 10A. Further, other suitable methods of varying the relative strength of each toy article 10, 10A can be used.

With these designs, each toy article 10, 10A can have a different susceptibility to becoming deformed during a battle. The extent of the susceptibility to deformation and the number of toy articles 10, 10A having a certain relative strength can vary. At the two extremes, some of the toy articles 10, 10A can have a high relative strength, e.g. a low susceptibility to becoming deformed, while other toy articles 10A, 10 can have a low relative strength, e.g., a high susceptibility to becoming deformed. Still other toy articles can have a relative strength that is between these two extremes. Alternatively, all of the toy articles 10, 10A can have substantially the same relative strength.

The components of the toy articles 10, 10A can be made from various materials. For example, the one or more components of the toy articles 10, 10A can be formed from plastics such as polyvinyl chloride, polyamide, polyester or polyolefin, as non-exclusive examples. Alternatively, one or more components of the toy article 10, 10A can be formed from ceramics, metals, or any other suitable materials which allow the toy article 10, 10A to potentially become deformed during a battle, or cause deformation to other toy article 10A, 10 during a battle.

In the embodiment illustrated in Figure 1, the first toy article 10 includes a first body 14, a first engager 16, a first rotation inhibitor 18 and a first coupling element 20. Somewhat similarly, the second first toy article 10A includes a second body 14A, a second engager 16A, a second rotation inhibitor 18A and a second coupling element 20A. Alternatively, one or both of the toy articles 10, 10A can be designed to include more components or less components.

In the embodiment illustrated in Figure 1, the first toy article 10 is substantially similar to the second toy article 10A in size and shape. More specifically, in this design, (i) the first body 14 is substantially similar in size and shape to the second body 14B, (ii) the first engager 16 is substantially similar in size and shape to the second engager 16B, (iii) the first rotation inhibitor 18 is substantially similar in size and shape to the second rotation inhibitor 18B, and (iv) the first coupling element 20 is substantially similar in size and shape to the second coupling element 20A. In this embodiment, the toy articles 10, 10A are designed so that the first engager 16 directly engages the second engager 16B. Because of the similarity of the components of the toy articles 10, 10A, the components of only the first toy article 10 are described in detail below.

Alternatively, for example, the first toy article 10 can be somewhat different in design than the second toy article 10A. For example, (i) the first body 14 can differ in size and shape from the second body 14B, (ii) the first engager 16 can differ in size and shape from the second engager 16B, (iii) the first rotation inhibitor 18 can differ in size and shape from the second rotation inhibitor 18B, and/or (iv) the first coupling element 20 can differ in size and shape from the second coupling element 20A.

The first body 14 can include a handle 22, a base region 24 and a wall region 26. The handle 22 can be gripped by a user during a battle. The shape, size and/or positioning of the handle 22 can vary. In the embodiment illustrated in

Figure 1, the handle 22 is somewhat rectangular. However, the handle 22 can be round, oval, ring-shaped, triangular or can have any other suitable geometry. Additionally, the handle 22 can include one or more distinctive markings. For example, although not a requirement, the handle 22 can display famous caricatures such as sports figures, celebrities, or other recognizable personalities, as non-exclusive examples.

In this embodiment, the base region 24 and the wall region 26 define a body cavity 28 that receives a portion of the first engager 16. The base region 24 is generally flat, although various structures can extend away from the base region 24, as described more fully below. Further, in this embodiment, the wall region 26 extends from the base region 24 and is positioned generally perpendicular to the base region 24. The configuration of the wall region 26 can be varied. In one embodiment, the wall region 26 is substantially tubular shaped. However, the wall region 26 can be configured in any suitable geometric shape.

As provided above, in one embodiment, the first engager 16 of the first toy article 10 is sized and shaped to directly engage the second engager 16A of the second toy article 10A. The first engager 16 can be formed from the same materials as the first body 14, or can be formed from different materials. The first engager 16 is generally a separate structure from the first body 14, and can be rotatably coupled to the first body 14 with the first coupling element 20, as described below.

In the embodiment illustrated in Figure 1, the first engager 16 can include a rotation inhibitor receiver 30, a coupling element receiver 32, an extension region 34 and an extension receiver 35. In this embodiment, the rotation inhibitor receiver 30 is a recess that is sized and shaped to receive at least a portion of the first rotation inhibitor 18. The positioning of the rotation inhibitor receiver 30 can vary. In this embodiment, the rotation inhibitor receiver 30 is positioned off-center relative to the base region 24 of the body 14 in order to inhibit rotation of the engager 16 relative to the body 14 about an axis 37.

The coupling element receiver 32 can engagingly receive the first coupling element 20, as provided below. The shape, size and/or positioning of the coupling element receiver 32 can vary depending upon the design requirements of the toy article 10 and the shape, size and/or positioning of the coupling element 20. In this embodiment, the coupling element receiver 32 is an aperture that has a

somewhat tubular-shaped region 36 and an enlarged region 38. In the embodiment illustrated in Figure 1, the tube region 36 is tapered to more easily receive the coupling element 20. However, the tube region 36 can have a relatively uniform width, or can have another suitable configuration. Further, in this embodiment, the coupling element receiver 32 is positioned substantially centrally relative to the base region 24 of the first body 14. Because of this positioning, in instances when the first rotation inhibitor 18 does not inhibit rotation of the first engager 16 about the axis 37 and the first engager 16 can rotate about the first coupling element 20, substantially within the body cavity 28.

The extension region 34 extends away from the body cavity 28, and is used to engage the second engager 16A of the second toy article 10A. The shape of the extension region 34 can vary. For example, the extension region 34 can have a substantially semi-circular shaped cross-section. Alternatively, for example, the extension region 34 can have a substantially triangular shaped cross section, a rectangular shaped cross section, or any other suitable configuration.

The extension receiver 35 is sized and shaped to receive a portion of the second engager 16A. In Figure 1, the extension receiver 35 is a recess that has a substantially semi-circular shaped cross section. Alternatively, for example, the recess can be an opening having a substantially triangular shaped cross section, a rectangular shaped cross section, or any other suitable configuration.

The first rotation inhibitor 18 extends into the rotation inhibitor receiver 30 and inhibits rotation of the first engager 16 about the axis 37. The shape, size and/or positioning of the first rotation inhibitor 18 can vary depending upon the shape, size and/or positioning of the rotation inhibitor receiver 30 and upon the requirements of the first toy article 10. For example, the first rotation inhibitor 18 can be sized and/or shaped to have a greater or lesser strength and rigidity, as necessary. For example, a thicker, more robust first rotation inhibitor 18 can be more difficult to deform than a thinner and/or hollow first rotation inhibitor 18. Moreover, the materials used to form the first rotation inhibitor 18 can impact the strength and/or rigidity, and thus, the susceptibility of the first rotation inhibitor 18 to deform during a battle. For example, the first rotation inhibitor 18 can be formed from a resilient, flexible material that can bend, and can resist breakage. Alternatively, the first rotation inhibitor 18 can be formed from a more rigid material

that is more susceptible to breakage. Still alternatively, the first toy article 10 can include multiple first rotation inhibitors 18.

In the embodiment illustrated in Figure 1, the first rotation inhibitor 18 is a rod shaped projection that is secured to the base region 24 of the first body 14, cantilevers away from the base region 24, and is positioned off-center relative to the base region 24. With this design, when the first rotation inhibitor 18 is intact, e.g. not broken, bent, or otherwise deformed as a result of a battle, the off-center positioning of the first rotation inhibitor 18 inhibits rotational movement of the engager 16 relative to the body 14 about the axis 37. The axis 37 can be the longitudinal axis of the first body 14 or the first coupling element 20, as examples, or the axis 37 can be any other suitable axis. In this embodiment, the first rotation inhibitor 18 does not inhibit movement of the first engager 16 in a direction away from the first body 14, e.g. along the axis 37. Moreover, it is recognized that the first rotation inhibitor 18 can be integrally formed as part of the first body 14.

It should be noted that, as used throughout the description, the term "secured" is to be construed to mean either that a separate structure is attached, or that the structures are integrally formed as a unitary structure.

It should also be noted that the first rotation inhibitor 18 can be secured to other locations of the body 14. For example, the first rotation inhibitor 18 can be positioned to cantilever away from the wall region 26 of the first body 14 and extend into the rotation inhibitor receiver 30 which is complementarily positioned on the first engager 16.

The first coupling element 20 couples the first engager 16 to the first body 14. In the embodiment illustrated in Figure 1, the first coupling element 20 is secured to the base region 24 of the first body 14, and extends into the coupling element receiver 32 of the first engager 16. In this embodiment, the first coupling element 20 includes an element shaft 40 and a somewhat enlarged element end 42. The enlarged element end 42 extends into the end region 38 of the coupling element receiver 32 and inhibits movement of the first engager 16 along the axis 37. In one embodiment, the axis 37 can be the longitudinal axis of the coupling element 20, e.g. away from the base region 24 of the body 14. However, the axis can be any suitable axis.

The element end 42 can be formed from a somewhat compressible material such as plastic or other pliable materials that allow the coupling element



receiver 32 to fit over the element end 42 and snap into place. In one embodiment, the element end 42 can include a lip 44 that can sufficiently compressed to fit through the tube region 36 of the coupling element receiver 32. Once in place within the end region 38 of the coupling element receiver 32, the lip  
5 44 decompresses and inhibits the element end 42 from exiting the end region 38 of the coupling element receiver 32. With this design, the first engager 16 is effectively coupled to the first body 14.

During manufacture of the first toy article 10, the first engager 16 is positioned so that the first coupling element 20 couples the coupling element  
10 receiver 32 to the first body 14, and the rotation inhibitor receiver 30 is positioned to receive the first rotation inhibitor 18, as provided above. Thus, prior to a battle, the first engager 16 of the toy article 10 cannot rotate about the axis 37 to any significant degree relative to the first body 14, nor can the first engager 16 move toward or away from the base region 24 along the axis 37 to any significant  
15 extent. However, as described below, if the first rotation inhibitor 18 becomes sufficiently deformed, e.g. bends or breaks off, during a battle, the first engager 16 is free to rotate about the axis 37 substantially within the body cavity 28 of the body 14. In one embodiment, regardless of whether or not the first engager 16 can rotate about the axis 37, i.e. whether or not the first toy article 10 has won or  
20 lost the battle, the first coupling element 20 still maintains a coupling between the first engager 16 and the first body 14 to limit the movement of the first engager 16 along the axis 37. With this design, creation of loose pieces of the toy article 10 is reduced or eliminated, thereby decreasing the likelihood of generating a projectile or a choking hazard for users or pets.

25 Figure 2 is a detailed, cutaway cross-sectional view of a portion of another embodiment of a toy article 210 including a coupling element 220 and the coupling element receiver 232. In this embodiment, the coupling element 220 is secured to and extends away from the base region 224. The coupling element 220 includes an element shaft 240 and an expandable element end 242. The expandable  
30 element end 242 can include one or more fingers 246 (two fingers 246 are shown in Figure 2) that are biased toward an expanded position 248 (illustrated by arrows). The bias of the fingers 246 can be achieved by using a resilient material to form the fingers 246, or the bias can be achieved in other suitable ways known to those skilled in the art.

During manufacture, the coupling element receiver 232 of the engager 216 is slid over the expandable element end 242, which overcomes the bias of the fingers 246. A tube region 236 of the coupling element receiver 232 moves the one or more fingers into a contracted position 250 (illustrated in phantom), which  
5 allows the expandable element end 242 to enter the end region 238 of the coupling element receiver 232. Once positioned within the end region 238, the expandable element end 242 can return to the expanded position 248. In the expanded position 248, the coupling element 220 inhibits movement of the coupling element receiver 232 in a direction along an axis 252. In one  
10 embodiment, the axis 252 can be the longitudinal axis of the coupling element 220. Alternatively, the axis can be any other suitable axis. Stated another way, once the coupling element receiver 232 is in place on the coupling element 220, the engager 216 is effectively coupled to the body 214 of the toy article 210.

Figure 3A is a top view of the first toy article 10 illustrated in Figure 1. In  
15 this embodiment, the first toy article 10 includes the first body 14 having the handle 22, the base region 24 (illustrated in phantom) and the wall region 26. The base region 24 and the wall region 26 form the body cavity 28. In this embodiment, the handle 22 is relatively flat. However, the handle 22 can be disk-shaped, key-shaped, or can have any other configuration that allows a player to  
20 easily grasp the toy article 10. The toy article 10 also includes the first engager 16 that is at least partially positioned within the body cavity 28 of the body 14. The engager 16 includes the extension region 34 that engages and/or interlocks the second engager 16A (illustrated in Figure 1, for example) of another similar toy article.

25 Figure 3B is an end view of the toy article 10 illustrated in Figure 3A. In this embodiment, the rotation inhibitor 18 (shown in phantom) is positioned off-center relative to the body cavity 28. Further, the coupling element 20 (shown in phantom) is positioned substantially centrally relative to the body cavity 28 and/or the base region 24. Once the rotation inhibitor 18 is sufficiently deformed, e.g.  
30 bent or broken during a battle, the coupling element 20 remains intact to continue to couple the engager 16 to the body 14. However, once the rotation inhibitor 18 becomes deformed, the engager 16 can rotate about the coupling element 20.

Additionally, Figure 3B illustrates a substantially semi-circular cross-sectional shape of the extension region 34 of the engager 16, although any suitable geometry can be used.

Figure 4 is a cross-sectional view of the first toy article 10 and the second toy article 10A illustrated in Figure 1, shown in an interlocked, engaged position before a battle. At this time, the rotation inhibitor 18, 18A on each respective toy article 10, 10A is still intact. At a moment designated by the users, e.g. at the count of three, the engaged toy articles 10, 10A, are moved relative to each other by the users. This movement can vary according to the design of the toy articles 10, 10A. For example, the movement can include rotation of the handle, or otherwise exerting a force on the opponent's toy article 10, 10A until one of the toy articles 10, 10A becomes deformed. Once one of the toy articles 10, 10A becomes deformed, the battle is terminated.

Figure 5 is a cross-sectional view of the first toy article 10 and the second toy article 10A illustrated in Figure 1, shown in the engaged position immediately following a battle in which the second toy article 10A has become sufficiently deformed (thus losing the battle). In this embodiment, the deformation occurs when the force between the engager 16 of one toy article 10 causes the rotation inhibitor 18A of the second toy article 10A to sufficiently deform, e.g. break off, as illustrated in Figure 5. However, once this occurs, the second engager 16A of the deformed second toy article 10A is substantially held in place on the second coupling element 20A. Thus, in this embodiment, the second engager 16A of the deformed second toy article 10A does not separate from the second body 14A.

Figure 6 is a cross-sectional view of another embodiment of the toy article 610. The toy article 610 illustrated in Figure 6 can be designed to do battle with a similar toy article or one of the other toy articles illustrated herein. In this embodiment, the toy article 610 includes the rotation inhibitor 618 and one or more coupling elements 620. The rotation inhibitor 618 can be substantially similar to the other rotation inhibitors described herein.

In the embodiment illustrated in Figure 6, the coupling element 620 allows for the rotation of the engager 616 about an axis 637 relative to the body 614. In this embodiment, the coupling element 620 can extend inwardly into the body cavity 628 from the wall region 626 of the body 614. In one embodiment, the coupling element 620 can be somewhat wedge-shaped to facilitate assembly of

the engager 616 with the body 614 during manufacturing. Moreover, the coupling element 620 can be formed from relatively compressible, resilient materials to allow the engager 616 to snap into place during manufacturing.

Further, in this embodiment, the engager 616 includes a coupling element receiver 630 that receives the coupling element 620. The coupling element receiver 630 can be a circumferential or partially circumferential groove or indentation that extends fully or partly around a perimeter of the engager 616, thereby allowing for rotation of the engager 616 about the axis relative to the body 614 following deformation of the rotation inhibitor 618 in a losing battle. The coupling element receiver 630 can be somewhat complementary in shape to the coupling element 620 in order to allow smooth rotation of the engager 616 within the body 614 following deformation or breakage of the rotation inhibitor 618. With this design, even following deformation or breakage of the rotation inhibitor 618, the engager 616 will remain coupled to the body 614 with the coupling element 620, which does not deform during a battle.

Figure 7 is a cross-sectional view of another embodiment of the toy article 710, which includes a body 714, an engager 716, a rotation inhibitor 718 and a coupling element 720. The toy article 710 illustrated in Figure 7 can be designed to do battle with a similar toy article or one of the other toy articles illustrated herein. In this embodiment, the one or more of the rotation inhibitor 718 and the coupling element 720 is secured to the engager 716. For example, in the embodiment illustrated in Figure 7, both the rotation inhibitor 718 and the coupling element 720 are secured to the engager 716. The shape and size of the rotation inhibitor 718 and the coupling element 720 can vary in accordance with the teachings herein.

Further, in this embodiment, the body 714 includes a rotation inhibitor receiver 730 that receives the rotation inhibitor 718 and inhibits rotation of the engager 716 relative to the body 714. Additionally, the body 714 includes a coupling element receiver 732 that receives the coupling element 720, and allows the coupling element 720 to couple the body 714 to the engager 716. In this embodiment, the coupling element 720 does not inhibit rotation of the engager 716 about an axis 737 relative to the body 714, but does inhibit relative movement between the body 714 along the axis 737. In one embodiment, the axis 737 is the longitudinal axis of the coupling element 720. With this design, the body 714

remains coupled to the engager 716 regardless of whether or not the rotation inhibitor 718 has become deformed or broken during a battle.

Figure 8 is a cross-sectional view of another embodiment of the toy article 810, which includes a body 814, an engager 816, a rotation inhibitor 818 and a coupling element 820. The toy article 810 illustrated in Figure 8 can be designed to do battle with a similar toy article or one of the other toy articles illustrated herein. In this embodiment, the rotation inhibitor 818 is replaceable. More specifically, in this embodiment, the rotation inhibitor 818 includes a pin 854 that can be replaced. For example, the engager 816 can included a removable threaded plug 856 that can be removed to allow for access to the pin 854.

It is recognized that the toy articles provided herein can be manufactured with any combination of features described herein. For example, the rotation inhibitor can be secured to the body, while the coupling element can be secured to the engager, or vice versa. Further, the rotation inhibitor can be secured to the engager while the coupling element can be secured to the wall region of the body. The foregoing are representative examples of the positioning of various features within the toy article, and are not intended to be limiting in any way.

While the particular toy article 10 as herein shown and disclosed in detail is fully capable of obtaining the objects and providing the advantages herein before stated, it is to be understood that it is merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the details of construction or design herein shown other than as described in the appended claims.